HEALTH

EDITED BY

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CONTENTS OF No. 29.

	PAGE
Notes by the Way	49
Original Essays:—	
How to Become Thin or Fat. I. By a Surgeon to several Metropolitan Hospitals	50
Type-Writers and Writer's Cramp. III.	51
Cold-water Cure for Burns, &c. By Mattieu Williams	52
Personal Health:—	
Hips or Braces? By Philip Foster, M.D.	53
The Body and its Structure. XXI. How Muscles Work. By A. J. Manson	54
The Family Circle:—	
Hygiene in Relation to Education and Youth. II. By Edward H. Riches, LL.D., F.R.A.S.	55
Healthy Houses:—	
The Unsanitary Homes of the Rich. III. By C. F. Wingate.	56
Jottings from the Journals	58
Our Bookshelf:—	
Foods and Drinks (*Illus.*)	59
Sanitary Appliances, &c.	61
Our Letter-Box:—	
Letters to the Editor: Danger in the Dairies	61
Queries and Answers	62

Notes By the Way

"Health is the foundation of all our physical happiness."—*Herder.*

THE lecture-season has once again come round, and finds an eager public awaiting instruction in arts, sciences, and literature. There is an increasing demand for information on "Health-topics," and the "popular lecture," it need hardly be said, serves as an important medium for the diffusion of knowledge of sanitary laws. We have already alluded to the work of the "Combe Trust," which manages the estate of the late George Combe; that estate being applied to further, by lectures, &c., the spread of physiological teaching as the basis of physical well-being. This year the Combe Trustees, in addition to subsidising courses of Health Lectures at Brechin, Hamilton, and elsewhere in Scotland, have despatched their lecturer, Dr. Andrew Wilson, Editor of HEALTH, to deliver the "Combe Lectures" on Physiology at Burntisland, Dalkeith, Alloa, and Airdrie; while Leith and Falkirk are to receive the benefit of "Health Lectures" by Dr. Wilson, under special arrangement with the Trustees.

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DR. WILSON'S lecture-dates are as follow:—Hamilton, two lectures (delivered), Oct. 9 and 16; Leith, six lectures, on Mondays, beginning Oct. 22; Paisley, eight lectures, on Tuesdays, commencing Oct. 20; Burntisland, eight lectures, beginning Wednesday, Oct. 24; and Dalkeith, eight lectures, the first having been given on Thursday, Oct. 25. Three lectures on the "Nervous System and its Work," fall to be delivered by Dr. Wilson before the "Greenock Philosophical Society" on the three Fridays beginning Oct. 26; the old year's programme ending with a "Health" Lecture at Alexandria, N.B., on Dec. 19. The year 1884 will find the Combe Lectures delivered in February and March at Alloa and Airdrie, while six "Health" Lectures also fall to be given at Perth and Falkirk, in the spring. The "Gilchrist" Lectures are to be delivered this year in Scotland by Mr. W. Lant Carpenter and Dr. Wilson; these lectures having been granted to Hawick, Peebles, Jedburgh, Selkirk, and Galashiels. Mr. Carpenter delivers his three weeks' course in these towns in December, 1883, his subject being "Electricity." Dr. Wilson's topic, dealing with the "Lower Forms of Plant and Animal Life," will be presented to the same towns during January, 1884.

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IT may interest our London readers to know that arrangements have been completed for the delivery of four lectures by Dr. Andrew Wilson, in Princes'-hall, Piccadilly, on "Brain, Nerves, and their Work." The lectures will be given during the Christmas holidays, at 8 p.m. on the evenings of December 27 and 31, 1883, and of January 2 and 5, 1884. As the lectures will be fully illustrated by diagrams and lime-light views, it is hoped they will prove acceptable as a means of popular instruction during the holiday-season. Mr. John Flack, 74, Great Queen-street, will gladly afford every information regarding these lectures.

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WE have received the report of a case, published in the *Sunderland Daily Echo*, in which a bone-setter, who was called in by the father of a boy whose toes had been injured, was allowed to supersede the surgeon in attendance, with the result that the boy, being treated with "essential oils" by the bone-setter, and mortification setting in, the lad died of tetanus, or, as it is popularly named, "lock-jaw." This case is only one of many in which regular, scientific advice is superseded by quackery. Doubtless the bone-setter did his best; but that best—namely, applying "oils" to a wounded foot—was not the treatment which the case urgently demanded, and which, but for the ignorance of the father and of the bone-setter combined, the lad would have received.

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"BONE-SETTING" has often been described as a special "art," but in the case before us, there were no special features demanding the interference of the "setter." The case was a purely surgical one; it was, moreover, apparently, a serious case from the first; and no "bone-setter," who possessed a regard either for the lad's safety or his own credit, would have ventured to interfere with the surgical treatment which was being adopted. Those who wish to know the rights and wrongs of bone-setting, should read a work on this subject by Dr. Wharton Hood (Macmillan & Co.), entitled "Bone-setting, so Called." Therein will be found full details of the nature of "bone setting," as practised by a famous and well-known setter whose mode of treatment Dr. Hood was privileged to witness and examine.

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THE Dean of Bangor's diatribe against tea-drinking in excess has called forth a vast number of comments, just and unjust. Filtered out, these criticisms present us with nothing that is novel or which the physiologist and health-reformer has not pointed out and declaimed times without number. As we recently noted, those who are well nourished may drink tea once or twice a day with safety and advantage, although it is more than probable that even well-nourished persons take on the whole more tea than is good for them, and that there are thousands with whom cocoa would agree better, cannot be doubted. But in the case of the poor, who regard tea as the sheet-anchor of their nourishment, the case is very different. Not only do they obtain little or no "food" in their tea, but the quality of the tea they are able to purchase is often beyond criticism. Social reformers must perforce regard tea as the enemy of the poor, since it supplants true foods, and in this light is to be strongly condemned.

It would appear that America drinks every year 58 millions of pounds of green tea, and only 5¼ millions of black tea. We import about 215 million pounds of tea, whereof 40 millions are exported, about 207 millions being black tea, and the remainder green. Now, the effects of green tea and of black tea on the nervous system are very different. It is the former which is most powerful in affecting health, black tea possessing only a mildly stimulant effect when compared with green tea. This excessive use of green tea may possibly account for the nervous dyspepsia regarding which American physicians speak and write so strongly.

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The following details should prove interesting in connection with our recent articles on "Type-Writers and Writer's Cramp." Dr. Vigouroux publishes in the *Paris Médical* a case of this intractable affection which was successfully treated by the actual cautery (that is with a heated iron). The first application took the form of three rows of cauterised points on the posterior surface of the forearm reaching from the elbow to the wrist. Relief was immediate, and three days afterwards the improvement was still marked. The operation was repeated at the end of a week and of a fortnight respectively. On the third occasion a row of points was marked out over the back of the hand and along the little finger, which had long been the seat of severe cramps and pains. Three other repetitions at intervals of three weeks resulted in a complete and unlooked-for cure.

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Dr. Vigouroux describes a method of treating writer's cramp practised with much success by Herr Wolff, a calligrapher of Frankfort. Two cases of an obstinate kind, treated under Prof. Charcot's supervision by various electrical methods without permanent benefit, were cured by way of demonstration after a fortnight of Wolff's treatment. The essentials of the method are gymnastics and massage of the affected muscles. The patient has to execute thrice a day a long series of abrupt movements of the arms and hands. The muscles are then extended and even put on the stretch by the operator or the patient himself, till fatigue overcomes the tendency to spasm. Massage, friction, and slapping are also persistently used, and writing movements practised so soon as the diminished cramp allows. It should be added that the treatment is painless.

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Professor Huxley thinks the public should look out for themselves in the matter of quacks. We cordially assent to this dictum—but as only a specially-educated public can effect this desirable end, and as people are not yet sufficiently trained in health-matters (see the bone-setting case above noted) to distinguish wherein the vice and the pretensions of quackery exist, it follows that the Professor's advice can hardly be followed out in the fashion we could desire. It is perfectly true that in the highest stage of culture we shall all be able personally to superintend the preservation of our own health; but, as a nation, we have not yet reached the degree of enlightenment necessary for the discharge of this duty. Till that time arrives, the quack must be looked after by the policeman—failing this, he must be allowed to ruin health as he pleases. The last result is not one, we imagine, the learned Professor will contemplate in calmness or in silence.

Dr. Nichols' Penny Vegetarian Cookery-Book.—Every household should possess this marvel of cheapness. Free for 1½d.—Nichols & Co., 23, Oxford-street, London, W.—[Advt.]

Original Essays

"Life is not to live, but to be well."—*Martial.*

HOW TO BECOME THIN OR FAT.

By a Surgeon to Several Metropolitan Hospitals.

FIRST PAPER.

Since the publication of Mr. Banting's letter explaining how, through following the instructions of his medical adviser, he reduced his body weight, now about twenty-one years ago, the medical profession has not interested itself in contributing anything towards the solution of the problem of how to maintain moderate bodily proportions. That the question is a pressing and important one is proved by the experience of all classes of the community; and that excessive obesity, or extreme leanness and poorness of blood, are either in themselves diseases, or the results of disease, there can be no question. It is a very great pity that medical men have not investigated this question more thoroughly during the time which has elapsed since Banting's pamphlet was published, thereby, as in too many other uncultivated medical and surgical domains, leaving the door open to all kinds of quackery, and to the use of patent medicines of secret composition. Banting said:—"Oh, that the faculty would look deeper into and make themselves better acquainted with the crying evil of obesity—that dreadful tormenting parasite on health and comfort. Their fellow men might not descend into early premature graves, as I believe many do, from what is termed apoplexy, and certainly would not, during their sojourn on earth, endure so much bodily and consequently mental infirmity." I hope I shall be rendering some service to the profession, as well as to the public generally, in ventilating the observations and views I have made on the subject.

During twenty-one years of professional life and hospital-experience I have seen many cases of obesity, thinness and poorness of blood, both as regards quality and quantity, but during the last three years these subjects have more prominently occupied my attention, on my own account and also on that of my patients. During the long professional period previously adverted to, I have repeatedly been asked by fat people how they may become thinner, and also by lean ones, especially ladies, how they may acquire *embonpoint.* In my own case, the wasting was due to overwork and irregularity of meals, producing indigestion; but on altering my mode of life and adopting the plan subsequently to be described, I gained half a stone in five weeks, and this increase I hope to be able to keep progressing, in the same ratio, up to a healthy standard. With regard to the weight reduction of very stout people, the treatment which I have recommended has, in from three to four months, reduced ladies and gentlemen (the former having predominated in my practice) from 20 to 17 stone, 18 to 15¼ stone, from 15 to 12 stone, from 14 to 11½ stone, and from 12 to 10 stone. My plan, as will presently be shown, avoids a too rapid reduction of weight, this being a great fault of previous so-called *cures*, producing, as they do, anæmia, *i.e.*, poorness of blood, and great physical weakness. Moreover, the Harvey-Banting method,* and other similar plans, not only act too quickly for the good of the patient's health, but are not permanent in their effects, and it is as well at once to state that all who desire to remain of decent bodily proportions should

* Mr. Harvey was Mr. Banting's medical adviser, and recommended the regimen which Banting adopted, therefore the plan should be called *Harveyism* instead of Bantingism.

live by rule, as regards regimen, diet, and other auxiliary measures.

I have investigated the subject from a scientific standpoint, and shall, in these papers, treat it from the points of view of modern anatomical, physiological, and chemical knowledge with regard to the digestive process, and the formation and functions of fat in the economy. I may add that I have applied this knowledge successfully for the practical purposes of treatment, and I trust that the publication of my views and results will draw renewed attention to the subject, and rescue it from the hands of mere empirics and patent medicine vendors. I must here, however, insert a caution, namely, that before any one of the three modes which experience induces me to recommend are put into practice, a competent medical man (the family adviser) should be consulted as to the general state of health and condition of the organs of the individual about to submit to the treatment, and also that its progress and results should be watched by the same recognised authority. The public are very apt, to their own detriment, to act on their own account in medical matters, but they should take a leaf out of medical men's books. When a medical man believes that he is at all seriously out of gear, he selects some one in whom he has confidence, and acts strictly by the directions given, occasionally, perhaps, suggesting that which his own knowledge and experience dictate to be worthy of trial.

In considering the question of obesity, three facts become prominent:—(1) That there are thousands either too fat or too lean. (2) That it is better to be neither, but in the happy mean. And (3) that there is no medical work nor authority on the subject, dealing with it from the modern standpoint. The second proposition needs no proof; the third I hope to render incorrect by publishing a technical work on the subject before long; and the first I will endeavour to discuss in plain language, and to explain how it comes about that people get too fat or too thin; but before this can be thoroughly understood, the ground must be cleared by inquiring into the formation of fat in the body, and other matters of importance.

First, then, let me define my subjects, and then treat them *seriatim*. **Fatness**, and its synonymous terms *obesity*, *corpulence*, *adiposity*, signify a condition affecting the body generally, externally and internally, and leading to the formation and deposition of an excessive quantity of fatty tissue. This disease must clearly be distinguished from mere local depositions of fat which are natural and hereditary to some people and races, as, for instance, in Hottentot women; and also from fatty degeneration which, though it does occur in very fat people, may and does happen in thin ones. **Thinness**, *leanness*, *emaciation* or *wasting*, are nearly equivalent terms, and signify a want, or an absorption, of previously existing fat, and, like the opposite condition, may be natural, or acquired through privation or disease. **Anæmia**, *thinness* or *poorness* of blood, means a condition of the vital fluid which is lacking in healthy quantity and quality in its solid or liquid parts. I will proceed to consider each of these subjects in the order in which they have been given.

TYPE-WRITERS AND WRITER'S CRAMP.

THIRD AND CONCLUDING PAPER.

The uses and manner of working of the type-writer having been described, it remains for us in the present instance to note the characters of the disease which, of all others, the employment of these machines tends to prevent and cure. The term "scrivener's palsy" has also been applied to "writer's cramp,"—both terms indicating that there is an inability to execute with ease the actions involved in writing. Duchenne, the famous French authority, has called the troubles of which "writer's cramp" is an example, "functional impotences." The acts which, in health, were easily performed, become laboured, and finally impossible of execution. No other symptom is noticed. All other muscular acts are readily performed, and it is this single action, that of writing, which appears to be affected. Where the patient earns his living with his pen, the results of this affection naturally become of serious kind; and as other forms of cramp affect other occupations than those of which the pen is the main instrument, it can readily be conceived that the affections in question become of extreme importance, both as regards cause and cure. Piano-players are known occasionally to be affected with a "cramp" allied to that of the penman, and which prevents them striking the necessary chords with precision and force. Violinists have been similarly affected, tailors have been rendered unable to sew, and even dairymen have occasionally appeared in the consulting-rooms of physicians, complaining that they have been unable to milk their cows!

In "writer's cramp," the affection, as often as not, begins with overstrain and overwork. A clerk, for example, who has been overworked in business, and who may, in addition, have been worried by home troubles, finds that his hand aches after even a short spell of writing, and that he does not write so easily as before. Later on, he finds a difficulty in holding his pen, and, as a writer has well remarked, it is at this stage that his downward progress is most marked, should he persevere in his efforts to accomplish his work with his former method and punctuality. Every conceivable means is tried by way of steadying the pen; and finally, in a neglected case, the patient becomes unable to make even a mark on the paper. As Dr. Poore has put it, this loss of writing power may, curiously enough, be the only symptom noticeable. An American patient wrote to Dr. Poore of his case, "that fingers which could guide razors and needle, wield oar and musket, and, though numb with cold, knot and cast off reefs on a wet sail, should yet strike work when called on for the familiar characters of their owner's name, seemed utterly beyond comprehension."

The exact nature and cause of this curious affection are still matters of inquiry. In ordinary "writer's cramp" there is rarely any history or symptom of grave nervous disorder, and even the pain and spasm are only observed when the attempt to write is made. The condition is thus regarded by some authorities as a *local* one, affecting the muscles used in writing and pen-holding, other than the nervous centres which govern these muscles. The muscles which hold the pen (as distinguished from those which guide it) are believed to lapse into a state of chronic and continuous fatigue. One of the most scientific views of this affection is that of Dr. Poore, who tells us that when *one* muscle out of a series, which has been accustomed throughout life to work in harmony with the others

Murdock's Liquid Food. — Extract from the *Lancet*. — This American preparation is described as "an extract of beef, mutton, and fruits, containing corpuscles, and 12½ per cent. of soluble albumen." The solution gives the blood spectrum very strongly, and contains so much albumen as to become almost solid with dilute nitric acid. Of course it is an exceedingly powerful and easily digestible form of food. It is calculated to be of the utmost use in medical practice. Among other applications, the use of the liquid food as an enema will strike every one.—Van Abbott, Infant, Invalid, and Diabetic Food and Mineral Water Warehouse, 5, Princes-street, Cavendish-square, London, W.; American A B C cereals and foods generally. Depôt for Brand's (May Fair) Meat Preparations.—[Advt.]

becomes wearied and incapacitated for its duties, the work of the whole series is disturbed, impeded, or rendered impossible. Failure of one muscle of the set necessary for executing any act, implies disturbance of the duties of all, and it is probable that to some such condition "writer's cramp" owes its origin.

Concerning the *treatment* of "writer's cramp," all authorities agree in stating that *rest* from all writing-movements (and, indeed, repose of body and mind at large) is the sheet-anchor of the physician. The general health must be seen to; tonics prescribed, if necessary; and the mind eased, as far as may be, of its worries. In the early stages of the disease, complete rest alone often effects a cure. Without rest no case can hope to improve.

It is in the *prevention* of "writer's cramp"—an all-important topic in view of the saving of time, expense, and pain—that the place and power of the type-writers we have described are clearly perceptible. It is quite evident that the manipulation of the keys of a type-writer is utterly different from the work of holding and guiding a pen. Entirely different sets of muscles are brought into play by the type-writer, and its use, alternating with that of the pen, is found to strengthen the general muscular powers, not of one hand only, but of both hands. The use of a type-writer by those who write much, appears to us to be fully justified by considerations akin to those which make *ordinary* exercise an essential part of a healthy life. The good effects of exercise are largely due to the alternation which is secured in muscular work, and to the pleasant change that ensues when different sets of muscles from those employed in work are brought into play. Hence, when a person who writes much, even alternates the type-writer as a means of executing his work with the use of the pen, a valuable and reliable means of preventing the tendency to "writer's cramp" is thus presented to view. There is obviated that tendency to the "fatigue" of muscles which, if not the primary cause, is at least a paramount condition of this disorder; and we may not neglect to add that the pleasant stimulus of change, and the interesting nature of type-writing work, are together elements of no mean value in rendering a writer's occupation agreeable and diversified. We know of novelists and others who rarely touch a pen, even to write a letter, and who execute all their work by aid of a type-writer; while, by aid of a clever-fingered amanuensis—type-writing, in this view, opens up a new field of female labour—the use of one of these machines is found to save an immensity of labour to busy authors, journalists, and others.

We may repeat that those interested in type-writers and their work, will find all information at 6, King-street, Cheapside, London, where the depôt of Messrs. Beeman & Roberts is situated.

COLD-WATER CURE FOR BURNS, ETC.

By W. Mattieu Williams.

"Health" is doing good service in many directions, some being those deliberately premeditated by its founder and editor, while others are unexpectedly developing by a sort of natural evolution. Among these is the opportunity it affords of recording non-professional experiences bearing upon medical and surgical, as well as sanitary matters; trifles that we laymen would scarcely venture to communicate to severely technical papers such as the *Lancet*, &c., but which, though trifling, may be practical, and when summed up together may in time amount to more than a trifle. A short time ago I communicated such an experience on the use of crude paraffin oil in burns, and now have just turned up a stray leaf of *Public Opinion*, of June 30 last, in which is an extract from "a contemporary," describing the application of cold water as a relief in two cases of severe scalds. The contemporary immersed his very badly-scalded hand in cold water, and kept it there for four or five hours, until the pain was greatly reduced on removing the hand from the cold water. In the other case, both the hands of Mr. Contemporary were scalded by a mixture of boiling glycerine and gelatine, and were kept in iced water during six hours, and although "the skin was destroyed superficially," and intense nausea was produced by the shock, no further mischief followed than a few trifling blisters. This reminds me of an otherwise forgotten experience. My first attempt in practical chemistry, when a boy, was to make oxygen by the now obsolete method of boiling oil of vitriol over black oxide of manganese. I had about half a pound of acid in a glass retort, had just started a vigorous ebullition by holding a spirit-lamp underneath, when the retort cracked, the bottom fell out, and its contents fell on my hand, burning it fearfully, but the washing-tub, extemporised as a pneumatic trough, was there, and in my agony I plunged my hand into the water. The pain was so great immediately I took it out of the water, that I kept it there during the rest of the evening—some two or three hours—and a curious result followed. Between my fingers large blisters rose, and the skin finally peeled off, but the front and back of the same fingers were not blistered, only inflamed. This may have arisen from the difference of the action of the cold water, which, when heated by the inflamed surface of the exposed parts of the fingers, would rise, and be replaced by fresh cold water, while between the fingers it must have been more or less confined, as I probably kept the fingers nearly touching while cringing with pain. When delivering popular lectures on chemistry, which of course include the three indispensables, viz., "a flash, a bang, and a stink," I always keep close at hand a large open pan of water, for use in case of trivial accidents with phosphorus, &c. My experience indicates that the cold water is useful when instantly applied, but is of doubtful utility if some minutes have elapsed after the burning or scalding.

How to Stop Bleeding.—The following formula is recommended:—

Rx—Collodion	100	parts.
Carbolic Acid	50	,,
Tannin	5	,,
Benzoic Acid (from the gum)	5	,,

Mix in the above order, and perfect solution is effected. This preparation is of a brown colour, and leaves on evaporation a strongly adherent pellicle. It instantly coagulates blood, forming a consistent clot, and a wound rapidly heals under its protection.

Figure-Beautifying Corsets.—Every lady should send for illustrated circular of the "Ideal," patented. The only corset regulated to impart any degree of fulness and beauty to thin busts. Prices: 8s. 3d., 10s. 9d., &c.—H. Evans & Bale, 52, Aldermanbury, London.—[Advt.]

"How to Obtain Light from Coal Gas," is the title of a small *brochure* by Mr. A. Clarke, 30, Watling-street, London. It may be profitably perused by all consumers of gas, indicating as it does briefly but clearly, the means by which the highest illuminating power may be produced with the least expenditure of gas. The author's theory of the proper method of burning coal gas as an illuminant is summed up in the following observation: "Reduce it to 'a moderately low pressure' before it reaches the point of ignition, where it should be *heated* before being consumed."—[Advt.]

Personal Health

"Be timely wise;
With health all taste of pleasure flies."—*Gay.*

HIPS OR BRACES.

By Philip Foster, M.D.

Even Bassanio would have been content with the plainness of the title under which it has pleased our nineteenth century civilisation to discuss the somewhat delicate question of whether ladies' skirts should be suspended from the waist or shoulders. This is not merely a personal matter, although some writers have chosen to "pooh-pooh" it as such; for anything which concerns the health of our women is of national importance, in it being bound up the physique and stamina of posterity — the well-being, power, and supremacy of this great nation.

Were I bent upon writing an article, I might dilate upon the history of braces, criticise at length the opinions of others, or in some of the thousand and one ways in which what is known as "padding" is manufactured, and in all of which the professed *littérateur* must be an adept, swell out my sentences; but who does not in these high-pressure times, when wading through his "daily," wearily echo Hamlet's exclamation—"Words, words, words!" and call to mind John Locke's condemnation of their unnecessary use?

The whole matter, which has sufficed to fill columns upon columns of our newspapers during the "silly" season, lies in a nutshell, and may be very briefly disposed of, provided that we strike at once *in medias res.*

Before attempting to determine where this weight should be placed, we will consider the no less important question —although it seems, strangely enough, to have escaped attention—of how the weight itself, which is at present excessive, and must be mischievous, however carried, may be reduced. The warmest of all coverings is that provided for animals by Nature—wool; and, therefore, the greatest amount of heat with the least of weight is secured by wearing garments made exclusively of this material. The underclothing, then, should be woollen, not cotton, as it usually is; should invest every part of the body closely, but not tightly; and the weight diffused as generally over the body as possible by the adoption of what is known as the "combination" form. In this way the warmth, protection, and comfort of the body—ends unattained by all the clothes women now burden themselves with—might be fully provided for, without producing the least sense of oppression; and the skirts, being only required as distinctive or fashionable articles of dress, might be very light.

And now comes the question—the one really at issue—shall the skirts—and the weight of these would be trifling compared to what it at present is were they simply used for the requirements of fashion, and no longer needed for warmth—be suspended from the shoulders or waist?

I am sorry to have to confess that medical opinion is not unanimous on the subject, and that physicians whose utterances are justly looked upon with respect have supported both views. Without making any claims to superior wisdom, I may say that my mind is unbiassed by specialism —an evil that warps the judgment of so many naturally able and gifted men. The suspension of heavy weights from the waist must tend to cause, and, where it already exists, increase that weakness of the lower parts of the body from which many women suffer so acutely; while braces, as ordinarily worn, impede to some extent the action of the lungs, and so interfere with the aëration of the blood. We are left, then, on the horns of a dilemma, and are compelled, as is too frequently the case, to choose between two evils. The shoulders, being less yielding than the abdomen, are better able to resist pressure, and the respiratory muscles sufficiently powerful to prevent the imposition of a moderate weight being attended with any great disadvantages. Besides, by the adoption of a chest-expanding form of brace, compression of the chest may be greatly lessened, if not entirely obviated. I decide, then, unhesitatingly in favour of braces,* and in this opinion I am supported by the *Lancet*—no mean authority.

"The Money Question Considered." E. W. Allen, 4, Ave Maria Lane, E.C. The money question in connection with the State purchase of Railways. "A small pamphlet full of facts." By post, 1½d.—[Advt.]

Excessive Sweating of the Hands.—We take the following useful information from the *Lancet*:—"The patient," says Dr. Alderson, "should soak her hands night and morning in warm water, in which should be dissolved about two drachms or half-an-ounce of the chloride of ammonium, and about twice as much carbonate of soda (crystals), enough water to be used to well cover the hands. I generally prescribe for my patients sufficient for six applications, and, as skins vary in tenderness, tell them to use as much as will temporarily to a slight extent cause the wrinkling known as cutis anserina (or goose skin), a condition which I describe to them as looking like the hands of a washerwoman. After well bathing, the hands are to be well rubbed with the following embrocation:—Tincture of iodine one drachm, compound camphor liniment and glycerine of each a drachm and a half, and compound liniment of belladonna one ounce. (If for the hands, a drachm of eau de Cologne makes the embrocation more agreeable.) The embrocation to be applied twice a day. A cure quickly follows. This treatment is equally appropriate and successful for excessive sweating and even bad-smelling feet, for that odour is due to the excessive function of the sudoriparous (or sweat) glands. All the cases of 'hyperidrosis' (excessive sweating) of the hands that have come under my notice," says Dr. Laing, "I have found to be due to some one of the protean forms in which dyspepsia is wont to manifest itself. The first thing to do, then, is to regulate the digestive system. In the case of a young girl, aged seventeen, who consulted me lately for this complaint, I pursued the following line of treatment with marked success:—Every day, one hour before dinner, I gave five grains of compound rhubarb pill. Immediately after the three principal meals of the day I ordered a teaspoonful of Fellows' Compound Syrup of the Hypophosphites in a wine-glassful of cold water, with once or twice a week an aloes and myrrh pill. From her dietary I excluded pastry in any form, and recommended fish, fowl, and tripe, whenever the last-mentioned article could be procured, giving directions that it should be thoroughly well stewed; also plenty of skimmed milk, but no tea or stimulants (alcoholic) of any kind. Night and morning the hands were to be sponged with belladonna liniment, and whenever she washed her hands I directed her to pour a teaspoonful of Jeyes' purifier into the water used. This local treatment I have also found most beneficial in excessive sweating of the feet, with offensive smell."

[* In the "Argosy Braces" will be found all the conditions necessary for health of which Dr. Foster speaks.—Ed.]

The Body and its Structure

"The proper study of mankind is man."—*Pope.*
"What a piece of work is a man!"—*Shakespere.*

NO. XXI.—HOW MUSCLES WORK.

By A. J. Manson.

Having investigated the structure of muscles, and having distinguished the two great divisions into which muscles fall—namely, the *striped* and *unstriped* groups, or *voluntary* and *involuntary* muscles, we may now proceed to determine how these organs discharge their duties, and play their part in the work of life. To understand this subject is an easy matter, if we commence our investigations by noting, with physiologists, that a muscle has three prominent states or conditions—namely, those of *rest*, *activity*, or *action*, and *rigor*, or *stiffening*. When at *rest*, a muscle is found to present the condition known as that of *elasticity*. It can be stretched, but, like a piece of india-rubber, it returns to its former dimensions when the process of stretching is relaxed, or ended. Naturally, a muscle exists somewhat in a stretched condition. If they remained in a relaxed state, when called into use the first part of their contraction would be lost; but as they exist in a state of slight tension, they are able to act, when occasion requires, without delay. When at rest, it has been proved that a muscle, in a measure, represents the body as a whole—in respect, at least, of its nourishment. Thus, it receives pure blood, takes oxygen from it, and returns venous or impure blood to the body. Muscles, and especially the voluntary ones, possess a rich supply of blood-vessels. As an active tissue, "muscle" demands a considerable blood-supply and a continual need of nourishment.

It is the second condition, that of *activity* or *action*, which, perhaps, possesses the highest interest for us in the study of muscles. Here the nature of muscular movements is clearly defined, and the fashion in which motion is carried out becomes plainly understood when the details of muscular action are noted. Muscles act in virtue of a property called *contractility;* in other words, muscular fibres possess a power of *shortening themselves.* If we study the action of that well-known muscle of the human arm, the *biceps*, we may readily appreciate how muscles act at large. The *biceps* forms the fleshy mass felt in the middle of the front of the upper arm. If, allowing the right arm to rest, say on a table as we sit thereat, we place the palm of the left hand over the right biceps, we can feel the fleshy mass distinctly enough. But as we raise the right forearm — still keeping the left hand over the "biceps"—we feel the muscle to swell, and to grow thicker as the forearm is bent on the upper arm. The biceps by its contraction—by its growing shorter and thicker—has brought the fore-arm nearer to the shoulder. As one end of the biceps is fixed into the radius-bone of the forearm (see Health, page 153) and the other end attached to the shoulder, and as one end of the muscle moves, it must follow that when the muscle grows shorter (or "contracts") *it must draw together the parts between which it is attached.* In the case before us, it is the lower or fore-arm end of the biceps which moves. Hence we see that by its contraction, the fore-arm must necessarily be approximated to the shoulder and bent in the upper arm. All muscles act in this way. They carry out the varied actions of the body simply by pulling together the parts between which they are attached.

The manner in which the fibres of a muscle contract, has formed a topic of scientific discussion. Probably the parts of each little fibril are brought closer together in such action, and the whole muscle thus contracts through the action of its constituent parts or elements. The fibrils in such a case would, when contraction takes place, become flatter, wider, and closer. That which is lost in the length of a fibre is gained in thickness. The muscle, to the touch, certainly swells up and becomes more prominent, and of harder nature: but these results are simply due to the increased tension to which the fibres are subjected.

Further example of muscular work will be given in our next article, and will be duly illustrated. We must, however, note meanwhile that certain results of highly interesting nature appear to accompany the contraction of a muscle. When a muscle acts, *heat* is developed. When a man's biceps was made to contract forcibly, it was found that about one degree of heat was produced. If such action was long continued, an increase of about two degrees in the temperature of the muscle took place. How this heat is produced has not been exactly determined. Possibly the increase is due to the friction of the muscle-fibres, or to chemical changes in the muscle itself. Physiologists are, in any case, inclined to believe that part of the heat which is due to active exercise is thus generated in the muscles which act. A muscle at rest gives a neutral or an alkaline reaction when it is chemically tested. After contraction the muscle shows an acid reaction, owing to the development within it of a special acid (*sarcolactic acid*). Carbonic acid gas is also given off, while oxygen gas is absorbed. Electrical currents appear also to form natural accompaniments of muscular life, and when a muscle has been "tetanised" by its nerve being electrically stimulated, the natural current may appear in a diminished state, or new currents may be developed, and these latter pass in an opposite direction to the natural current of the healthy muscle.

There lastly exist certain conditions which are necessary for the healthy contraction of muscles. It is curious to note that after a number of contractions a muscle becomes exhausted. We see this result in the tired and fatigued man, whose muscles refuse to obey his will, even though the "spirit" be strong. Again, muscles contract most readily when the temperature or surrounding heat is at a certain mean, and we can cause their power of contraction to disappear when we cut off their supply of pure blood. This fact shows us how necessary it is to secure a pure and healthy blood-supply, when muscular exertion has to be undertaken. Muscles act, it should also be noted, in virtue of their own power and property of "contractility." Nerves only supply the *stimulus* which bring this property into play. When we "will" to perform any act, a nervous impulse shoots from the brain down the spinal cord and along the particular nerves which supply the muscles we desire to bring into play. But in such an action the nerve only stimulates what is latent in the muscle; and muscles for that matter, can be made to contract for a time, even when they are removed from the body of which they formed part.

"Striped" muscles respond to stimuli in a different fashion from the "unstriped" or involuntary muscles. If

West Green, Tottenham, West Green College for Ladies.—The Principal, Miss Bristed, A.C.P., receives young ladies to board and educate in a thorough English education. Good schoolroom, furnished with all improvements in lighting and ventilation. Separate Swedish desks. Scientific gymnastic classes held twice a week. The pupils' studies are varied by frequent change of occupation and physical exercise. Miss Bristed's pupils have been very successful in the local University examinations. Good garden and tennis court. Prospectus on application.—[Advt.]

a muscle—say of the arm or leg—is excited through its nerve, the contraction of the muscle ceases whenever the stimulus is removed. But when the unstriped muscles—such as those of the stomach—are made to contract (as when food enters that organ), the action of the muscles continues for a time after the stimulus has been withdrawn. The voluntary muscles respond to any call which is made upon them more quickly than do the involuntary ones, but an exception to this latter rule is seen in the case of the heart. Here we find an involuntary muscle (with *striped* fibres, however) whose action is quick, decided, and almost continuous. In respect of such action, the heart would seem to be a kind of link uniting the voluntary muscles with those which act independently of the will.

The use of impure water for drinking purposes has been fully recognised as a fruitful source of disease in human kind. But much carelessness has been shown as to the necessity of providing cattle with pure water. This is a point to which the loss and inconvenience arising from the prevailing cattle epidemic may perhaps direct deserved attention.

Dogs' Diet.—The result of the experiments made to determine the quantity of food a dog can consume daily were communicated at a recent meeting of the Académie des Sciences. It appears that the quantity varies considerably, according to different conditions affecting the animal. A dog can eat and digest a quantity of meat equal in weight from one-tenth to one-sixteenth of its body. After taking cold coffee, its appetite is much keener, and it can devour a quantity of meat equalling in weight one-eighth of its body. If meat be used with bread, starch, or any kind of flour, less of the food swallowed is absorbed, and the animal becomes thinner, sometimes phthisical, and dies.

A correspondent of the *New York Medical Record* writes:—"No matter how liberally other expenses are compensated, physicians must serve the public for honour. Can you mention any other profession, trade, or business where liberal pay is not expected for all services? Apprentices, clerks, lawyers, students, get paid for their services while learning the business, and criminals who claim to be unable to employ counsel, either have a lawyer furnished by the State or go without. My personal experience bears this out, living here among the miners. Let one be injured, liberal collections are often made to pay his grocer, &c., but never a cent. for the doctor; on the contrary, he is generally expected, while giving constant daily attention, perhaps for months, to contribute more than his fair proportion for other expenses. Several years ago a wealthy corporation called upon me to attend one of their men, who was terribly injured by an explosion. It required constant attention for several months, at a distance of six miles from my home. They paid the patient's board, furnished him a nurse and all other necessary expenses, but when the man finally got well, told me that they were incorporated to mine coal, not to pay doctors. All are under the universal idea that the profession is under special obligation to work for the poor gratuitously. Where else will not the same amount of skill and education command better remuneration than in the medical profession, when public services are to be performed, and where else is the same amount of gratuitous services required?"

Sanitary nspections.—Fee for Survey and Report, in London, 2 Guineas. Estimate given and Improvement Works carried out when required.—The Sanitary Engineering Co., 115, Victoria-street, Westminster, S.W.—[Advt.]

The Family Circle

"The child is father of the man."—*Wordsworth.*
"In bringing up a child, think of its old age."—*Joubert.*

HYGIENE IN RELATION TO EDUCATION AND YOUTH.

By Edward H. Riches, LL.D., F.R.A.S.

SECOND PAPER.

As promised in our last paper, we must now enter plainly into some details with respect to the environment of the young whilst at school. It has been generally admitted that (with but rare exceptions) the brain of a boy or girl under the age of seven is not in a sufficiently advanced condition to profit by the routine of school life. The judgment of Dr. Paldanus, who is an authority on this matter, advised parents not to give their children any instruction whatever before the age of seven; and he puts it thus: "Those who received no instruction before they were seven years old made more satisfactory progress than others who had been taught lessons from the age of four or five. Those who had received instruction too early frequently turned out dull, and the brightest hopes entertained for them suddenly vanished." Certainly for any parent to think that the education of a child will be completed earlier in proportion as a commencement is made is a fallacy. One might very soon discover the mistake of giving to the child the food suitable for the adult; and so it is with the mind as with the body, an abnormal nutrition must end in disaster. Of course, the mind of the child under seven years of age is not to be neglected; there are countless ways of giving to it nutriment of a suitable character while it is growing or developing, and the *Kindergarten* system of mental instruction may be here happily brought into force. This grand method, which teaches the young mind by association and by an agreeable form of instruction, may be carried out in the open air as in the house. It is of paramount importance with all boys and girls at school, that those organs upon which the physical and moral life depend should be exercised and developed with judgment; they should be rendered as perfect as possible.

These organs are the stomach, the heart, the vascular and nervous systems. The lungs of children are rendered healthy or otherwise, according to the presence or absence of pure air; and the practising of running freely about, and the encouragement to use the voice properly by speaking out plainly, and singing, are points which may well be noted. Wholesome food, which is easy of digestion and nourishing, is essential for the stomachs of young people. Fresh air in a moderate temperature and frequent washing are essential for a healthy skin. Of course, one should ascertain that the condition of the body is generally healthy before an attempt is made to develope the physical and moral faculties Pure air, baths, and exercise should always be regarded as initial points of great moment. It may be remembered, too, that moderate changes of temperature are beneficial, as nature is thereby assisted in asserting her own powers of dominion; and as to exercise, let it be verging on fatigue, but there let it stop. Suitable to the temperature too, let such clothing be worn; but it is highly necessary with growing boys and girls to see that this never becomes too tight in any part, as much harm may thereby ensue. Moderation in diet is of importance, and care should be taken that

this is eaten in the proper way, not hurriedly, but with care as to sufficient mastication. The age of school children is one which requires every care, for the future man or woman greatly depends, in a physical and moral sense, upon the customs and ways of living adopted in early years. To the thoughtful of older growth, there is a deep truth involved in Wordsworth's saying, that "the child is father to the man." In the system of education adopted at many private schools throughout the country, there is without doubt too much "learning" and too little "teaching."

Any one acquainted with school-life knows well enough that the ease of a teacher is greatly in proportion to the amount a pupil is supposed to "learn," not from "teaching," but by personal reading and study. To sit for hours in one position "cramming" for those highly popular locals and other "exams," is not a means whereby the health of a pupil is improved; and if there were more "teaching" by those who love the work, it would be all the better for the pupil. What greater error can there be than for a pupil to be compelled to addle his or her brain with a mere mechanical drudgery of learning dates of history and rules of grammar? Let the teacher, who knows and loves the subject he professes to teach, develop the mind of the pupil in an attractive and healthful way, by reference to the manners and minds of certain epochs in the world's history, by practical illustration of geometric problems or scientific truths; the "learning" is sure to follow to the thus healthily developed mind, which has been gradually trained by judicious and natural exercise into the groove for later and closer study. But it is not our present purpose to write *ex cathedra* upon a system of education, but to point out the fact that, whereas one system of education may be highly detrimental to the health of a pupil, another may be made even highly conducive to general good health.

(*To be continued.*)

Dr. Jenner was a man of wit, and the following lines addressed to a lady upon the recovery of her daughter, and sent to her with a pair of ducks, afford a specimen of his facetious vein:—

"I've despatched, my dear madam, this scrap of a letter,
To say that Miss —— is very much better;
A regular doctor no longer she lacks,
And therefore I've sent her a couple of quacks."

Cocoanut as Food.—Some extraordinary stories are told of the value of cocoanut as an efficient food. The following instance is given by the *Fiji Times*:—A vessel that once left San Francisco with 400 passengers for Sydney had, in consequence of running short of stores, to put in at Samsa, where a large quantity of cocoanuts were obtained. During the remainder of the passage very heavy weather was encountered, in which the vessel became waterlogged, and only reached Sydney after a perilous journey of eighty days, during which time all the provisions ran short, and men, women, and children were fed only upon cocoanuts, being at last reduced to one per diem for each adult. Notwithstanding the diet, not a life was lost, not a single case of sickness occurred, and all the passengers landed in a healthy and well-nourished condition.

A well-known provincial surgeon was recently being shown round a provincial hospital by one of the physicians attached to the institution. "Here," said the latter, "is an extraordinary case; I should like you just to listen to the heart." "It doesn't interest me, my dear Sir," was the reply; "I don't care for anything above the diaphragm." "Indeed! and have you any downward limit?" asked the physician. "Certainly—Poupart's ligament," was the prompt rejoinder.

Healthy Houses

"A happy home must be a healthy home."—*Anon.*

THE UNSANITARY HOMES OF THE RICH.

By C. F. Wingate.

(From the *North American Review.*)

III.

In Boston, many fine residences, especially in the fashionable Back Bay region, lack sanitary safeguards. Thousands of houses are built upon piles in made ground. In the process of settling, which may continue for years. the drains are inevitably dislocated, and this permits sewage to saturate the foundations and subsoil. I have known seventy-eight cart-loads of earth polluted in this way to be taken from under a building. This condition of things may exist for months, and even years, without a suspicion of harm, until serious sickness breaks out. Mr. Theodore Clarke says: "In my experience, defects of this kind are far more common than leaks in iron soil-pipes, imperfect traps, or other defects attributable to the plumber." The thickest concrete flooring is no barrier to drain-air, which, after entering the cellar, readily finds its way through the recesses in walls where plumbing pipes and furnace flues are carried to the remotest point of the building. An official examination of three hundred and fifty-one houses, made in 1878, showed that fifty-five per cent. of the drains were imperfect. In Chicago, out of seventy-five houses where diphtheria occurred, only four were found in a sanitary condition. In St. Louis, Health Officer Moore stated, in 1879, that there was probably not a single house with perfect drainage, while in the vast majority every sanitary maxim is violated.

As may be inferred, if plumbing in these localities is so bad, it is still worse in small cities and towns. In such places, men of wealth aspire to build residences rivalling those of the great cities, and with all modern improvements. Neither the architects, however, nor the plumbers on whom they rely, have hitherto been equal to the task. The former are no better informed than their city brethren, while the latter are mostly tinsmiths who have had no practical training in plumbing and who make extraordinary blunders. The most carefully-drawn specification will hardly restrain an ignorant or unscrupulous mechanic from scamping his work. Hence, hundreds of examples of criminal blundering may be found in these places. In St. Paul, Minn., galvanised iron is invariably used for ventilation pipes. The rest of the plumbing is on a par with this practice. In Rochester, I am told that there is only one practical plumber among the thirty men in the business there, and when tinsmiths have contracted to plumb a fine residence, they have had to borrow a journeyman plumber to make the wiped joints, as tinsmiths can only make "bolt" joints. In another city in the centre of New York State, a fine mansion, which cost seventy-five thousand dollars, had such small chimney-flues that not one of them would draw, while the plumbing was simply wretched. A bath-room in the centre of the house had no ventilation except through a transom window which opened over the head of a bed. The occupant of that bed died of typhoid fever. Another bath-room was ventilated by a small pipe into a chimney flue, and the odours passed into the dining-room on the floor below, causing so much offence that the fireplace had to be bricked up.

Three causes have contributed to the prevalence of defective house drainage. First, plumbing practice has not developed so rapidly as other useful arts. Houses built only a few years since lack many sanitary requirements. Since 1878, a revolution has been effected in methods of work and in the character of plumbing appliances. A large manufacturer of plumbing supplies states that his sales of fine goods of this class during the past three years exceed the total sales of the previous thirteen years. The widespread agitation by the press and by technical journals has made the public appreciate the necessity of having the best plumbing in their houses. The time is not distant when people will be willing to make a reasonable outlay to meet the sanitary requirements of dwellings. Second, the number of plumbers competent to do good work is small. The great majority have had to depend upon contract work, which of necessity is cheap and inferior. Few of them have had opportunities to execute work of the best kind. They have been snubbed by architects, cramped by customers, their motives distrusted and their intelligence belittled. A plumber who is conscientious and disposed to render a fair equivalent for his pay cannot compete with unscrupulous rivals, and must be content with a limited business. The mass of the trade are grossly ignorant of scientific principles, and are influenced too strongly by mere considerations of profit. If a customer does not want good materials or the best workmanship, the ordinary plumber furnishes a poor quality of both, suiting his service to his pay. Even when the owner is wisely liberal and desires to have the best that money can supply, the plumber, from ignorance, may be incapable of meeting his wishes, and one constantly finds houses in an execrable condition when no limit has been placed upon the cost. Again, some plumbers who have gained a reputation for good work will deliberately trade upon this reputation, and by employing a few good workmen and a large number of inferior hands or boys, will strive to make the skill of the former supply the deficiencies of the latter.

It might be expected that our architects would give special heed to sanitary requirements, but thus far they have been too busy with the æsthetic side of their profession, simply because this is what their clients expect from them. Hence the plumbing and drainage of a house are usually left to the wisdom and care of the builder or plumber, with what results the public too well know. Any one who has had occasion to read the plumbing specifications drawn up by the average architect will be filled with amazement at their crude, incomplete, and unsatisfactory character. Even where, as in New York, printed blanks are provided by the health authorities, a large proportion of the plumbing specifications have to be returned for revision.

As human nature is constituted, and while men must live and carry on business under severe competition, it is only to be expected that plumbers will be governed by self-interest; but householders may avoid being victimised by employing only men of intelligence and standing. There is a strange delusion on the part of the public that a plumber who works himself and has a shop in a cellar must, of necessity, be more intelligent and cheaper than a workman employed by a reputable firm who can afford to have an attractive shop in a good locality. Hence one constantly finds the most stupid and rascally fellows admitted into the best houses, and allowed to do as they please with the drainage. Some one has said that a man cannot handle lead without moral deterioration. A more rational explanation of the deficiences of plumbers would be, that where men's pecuniary interests are opposed to their sense of what is right, they become what is called "business honest," and sacrifice others' interest to their own. The day of retribution, however, is fast coming to the men who have done inferior work in this line.

Another cause of the unsanitary condition of modern houses is the parsimony or false economy of their owners. There seems to be a special temptation to skimp and save in plumbing. Yet it constantly happens that the whole drainage arrangements of a house are spoiled by such a penny-wise policy. It is always cheapest to have good work, and the cost of tearing out and correcting defects is usually three times the outlay for making work perfect at first. As Emerson remarks: "The difference between what is good and the best is sometimes as great as between what is good and what is bad." A slight flaw in the drainage of a house may ruin the whole. As a chain is never stronger than its weakest link, so the most elaborate system of plumbing depends for its security upon the perfection of every detail.

Furthermore, householders must learn to distinguish between things which are essential and those which are merely ornamental. They must not consider a stain on a marble slab or on the lining of a bath-tub a more serious offence than a soil-pipe full of sand-holes or one jointed with cement and putty. Neither must they take it for granted that because the visible work about a house is neatly and carefully finished, the work hidden under floors or behind casings is of equal quality. When one reads descriptions of the gorgeous sanitary arrangements in certain London artists' homes, where lavatories are fitted up with coral, silver, crystal, and marble slabs, inlaid with uncut gems and ornamented with silver and gold, he cannot but wonder, in view of the shocking sanitary defects in the homes of the English nobility and of royalty itself, if the rest of the work is scientifically planned and executed.

Overpressure in Elementary Schools.—Great as are the advantages of free elementary education, it is under the compulsory system apt to suffer from certain disadvantages which a little forethought and discretion on the part of officials connected with its administration may often remedy. Complaints are heard from time to time of the tendency to unduly increase the number of subjects of instruction. Teachers complain of the pressure on their own behalf and that of the children. We do not dispute that there may be subjects outside the circle of the three R's about which young children may learn something with benefit to themselves, but the application of all such instruction should be tempered by consideration for the age, the circumstances, not always favourable, in regard to nutrition and the hygienic surroundings of the recipients. The brain of a child of ten or twelve, for example, even under the best conditions, is not usually equal to much in the way of elementary mathematics, of languages other than the every-day tongue, or even of that favourite school study, physiology. In regard to all such subjects there should be no pressure. We do not know that ill effects in this connection are to be measured by the statistics of brain disease. A child's health may suffer for want of timely play and fresh air without any signs of mental alienation. There is many a strumous child in Board Schools. Can any one say whether tuberculosis or meningitis has increased under educational pressure?—*Lancet.*

The "Spécialité" Lime Juice, for family daily use throughout the year, has not the usual musty flavour; will not turn mouldy; may be obtained of Chemists and Grocers.—Feltoe & Sons, Albemarle-street, London, W.—[Advt.]

Jottings from the Journals

"Th' ingredients of health and long life are
Great temperance, open air,
Easy labour, littl care."—*Sir Philip Sidney.*

Tea-Drinking.—The Dean of Bangor lately took occasion to inveigh against what he terms the pernicious habit of tea-drinking. From a perusal of his remarks, one would think that indulgence in "the cup that cheers but does not inebriate" lies at the foundation of many of the evils and vices that tend to enervate and degrade mankind. To our mind the conclusions of the learned Dean are drawn from insufficient premises, which, in their turn, can scarcely be regarded as scientific truths. To say that over-much tea-drinking acts as a dangerous revolutionary force amongst us is scarcely on all fours with the acknowledged high physical and mental standard of men of our own times. If we were to follow his argument to its logical end, we should not be surprised to find that the use—or abuse—of the popular beverage through so many years had, by its debasing and destructive tendencies, in virtue of the process of natural selection, caused the tea-drinkers to go to the wall or set each man against his fellow, and brought Macaulay's New Zealander to contemplate the ruins of St. Paul's, or Campbell's last man to bewail the infatuation of his sacrificed ancestors. To fix the ills and misfortunes of race and individuals upon one or other besetting fault, such as excessive tea-drinking, is as reasonable as to ascribe the brain disease of a madman to his insane acts. We would not for a moment be held to countenance the abuse of what in moderation is undoubtedly a tranquilliser of the temper and a pleasant and harmless stimulant. Times enough we have directed attention to the injurious practice of taking strong tea to excess, and especially upon an empty stomach, and to the harmfulness of ingredients such as artificial colouring matter employed for sordid gain. But there is a medium in all things, even in those where the worst is not very bad or the best very good. Hard-worked minds and fatigued bodies are often the better for some gentle stimulant that rouses into gentle activity the nerves which minister to animal life and comfort. Tea has it uses and abuses, like most other things; but we are inclined to think that the latter are an insignificant set-off to the former. Oatmeal and milk are excellent things, but they are scarcely fitted for the drawing-rooms of society; and society must have its pleasures as well as carry out its duties.—*Lancet.*

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Pure Water for Cattle.—Under the above heading Mr. G. Bowles has been writing to the *Times*, asking the aid of that journal to impress upon the Government that it ought to insist that holders of land should in every case provide pure water for cattle to drink. If the Government inspectors, Mr. Bowles adds, would only look at the ponds at present provided for drinking purposes, they would see how very foul the water often is, and that it contains numbers of animalculæ. The complaint that farmers are not careful to supply their stock with wholesome drinking-water is doubtless just and much needed, and it is by no means unreasonable to ask that Government should take the matter up, and instruct their inspectors accordingly. However, Mr. Bowles, who is an authority on the subject, brings a specific charge against foul water, furnishing very strong grounds for interference. He says if milk be taken from cows that have drunk this water and kept two or three days, the same animalculæ will be found in it; and that he learns from a friend, who thoroughly understands the question, that if milk be set to make cheese at a temperature, say, of 70 deg., the curd will develop life of the same species that was in the water. Mr. Bowles concludes by hinting at a connection between sewage-water drunk by cattle and frequent outbreaks of typhoid fever, and asserts that "foot-and-mouth disease arises from the drinking of these impure waters." Certainly the allegation is comprehensive, and full of interest to all. We can only draw solace from the reflection that Mr. Bowles, who is not a biologist or pathologist, may have been mistaken, and that the animalculæ found in the kept milk were not the same as (or the descendants of) those in the contaminated water. We trust the publication of Mr. Bowles' observations may induce some competent scientific man to investigate this most important topic.

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A Seventh Sense.—Sir William Thomson, the eminent Professor of Natural Philosophy in the University of Glasgow, in his inaugural address, delivered last week, as President of the Midland Institute, at Birmingham, broached the idea of the existence of a magnetic sense. This sense he called the seventh sense, to distinguish it from our other six senses—namely, those of sight, hearing, taste, smell, heat, and force. He said that, in speaking of a possible magnetic sense, he in no way supported that wretched grovelling superstition of animal magnetism, spiritualism, mesmerism, or clairvoyance, of which they had heard so much. There was no seventh sense of a mystic kind. Clairvoyance, and so on, was the result of bad observation chiefly, somewhat mixed up with the effects of wilful imposture, acting on an innocent and trusting mind. If there were not a distinct magnetic sense, it was a very great wonder that there was not. The study of magnetism was a very recondite subject. One very wonderful discovery that was made in electric magnetism was made by Faraday, and worked out very admirably by Foucauld, an excellent French experimenter, showing that a piece of copper, or a piece of silver, let fall between the poles of a magnet, would fall down slowly, as if through mud. Was it conceivable that, if a piece of copper could scarcely move through the air between the poles of an electric magnet, a human being or living creature, in the same position, would experience no effect? Lord Lindsay got an enormous magnet, so large that the head of any person wishing to try the experiment could get well between the poles; and the result of the experiment was marvellous, the marvel being that nothing was perceived. Sir William Thomson, however, was not willing to admit that the investigation was completed. He could not but think that the quality of matter in the air, which produced such a prodigious effect on a piece of metal, could be absolutely without any perceptible effect whatever on a living body. He thought the experiment was worth repeating; and it was worth examining whether or not an exceedingly powerful magnetic force was without perceptible effect on a living vegetable or animal body. His own speculations had led him to conclude that there might be a seventh or magnetic sense; and that it was possible an exceedingly powerful magnetic effect might be produced on living bodies that could not be explained by heat, force, or any other sensation.—*British Medical Journal.*

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Menthol and its Use.—Menthol, or menthylic alcohol, is a crystalline substance, deposited from the oil of peppermint, prepared in China and Japan from *Mentha arvensis*

var. *piperascens*, and *glabrata*. It formed the chief ingredient of a much valued remedy for neuralgia before its nature or source was generally known. Under the name of Po-ho-yo, or Gouttes Japonaises, it has been sold in small bottles, labelled with Chinese characters. It is a white crystalline stearoptene, melting when pure at 97° F., and is obtained by the Japanese from the oil of peppermint by submitting it to freezing several times in succession, until no more menthol crystallises out. It is also said to be contained in the American and English oils of peppermint, but probably in small quantities only. It is somewhat surprising that the Japanese peppermint plant, which is grown in England as a curiosity, has not been cultivated in this country as a source of this drug, the supply of method being uncertain, the demand great, and the price in consequence occasionally very high. Menthol is said to be sometimes adulterated with crystals of Epsom salts, to which it bears a great resemblance. These, being insoluble in alcohol or chloroform, in which fluid menthol is freely soluble, can be easily detected. Samples of fine crystals sometimes contain some essential oil adhering to them, a fact which must be taken into consideration when the menthol is made into cones or pencils. Menthol is but slightly soluble in water, although imparting a strong smell and taste to that liquid, and is insoluble in aqueous alkalies. It is soluble in fixed and volatile oils, and in ether. *Therapeutical uses.*—Menthol acts as a diffusible stimulant when given internally. Its solutions, whether in oil of peppermint, rectified spirit, or other solvents, when applied externally, act as an anodyne, and relieve pain somewhat after the manner of aconite, over which menthol has the advantage of not being poisonous. It is a powerful antiseptic, while not at all caustic. It is used by the Chinese in sunstroke, the oil of peppermint containing menthol being rubbed over the head. According to Mr. T. Christy, under these circumstances it produces profuse perspiration, and relieves pain, and procures sound and refreshing sleep. In neuralgic pains of any kind, whether facial or intercostal, or in sciatica, great relief is experienced by the external application of menthol. In ringworm of the scalp it has been used with success. Its antiseptic properties, combined with its action as a powerful diffusible stimulant, seem to indicate that it might be of great service in the treatment of cholera, but it does not appear to have been tried as yet in this disease. It is also used in various forms for stopping toothache, the solution being placed on cotton wool in hollow teeth; also for preparing them for stopping, or to prevent pain from pressure of the forceps during extraction, a strong solution being applied to the exposed dentine. *Preparations and doses.*—An alcoholic solution of one part in ten of rectified spirit may be used externally in sciatica. For ringworm a mixture of one part of menthol in four volumes of chloroform and twelve volumes of olive oil. It is, however, commonly used in the form of cones for rubbing over painful surfaces, the crystals being made to cohere more firmly by the addition of a small proportion of solid fat. Several liquids for inserting into decayed teeth are used, which are made as follows:—Equal parts of menthol and thymol, menthol and phenol, or menthol and chloral hydrate. Three parts of menthol and two of camphor, two parts of menthol and one of croton-chloral hydrate, two parts of menthol with one each of carbolic acid and croton-chloral hydrate, all form similar liquids when triturated together.—*Midland Medical Miscellany.*

Barnes's Impermeable Opium Poultice, an effective and perfectly safe application for relief in neuralgia, gout, rheumatism, painful swellings, and lumbago. Prices by post 1s. 3d. and 2s. 5d. 1 and 2, Trevor-terrace, Knightsbridge, S.W.—[Advt.]

Our Bookshelf

"Reading maketh a full man."—*Bacon.*

FOODS AND DRINKS.

Familiar Lectures on the Physiology of Food and Drink. By Robert J. Mann, M.D., F.R.C.S. (London: Ward, Lock, & Co.)

Dr. Mann tells us in his preface that the lectures which have been published in this handy volume form were delivered to various audiences, consisting chiefly of teachers, to whom the information thus imparted must have been as interesting as it was instructive. In the whole range of physiology, there is no topic which exceeds in importance that dealing with food and drink. If we consider how little is known by ordinary persons concerning the nature of the foods required to maintain the body in health, and how infinitesimally small is the knowledge ordinarily possessed of the quantities necessary for the support of the frame under the varying exigences of life, the wonder is not that disease attacks us, but that we are so comparatively free from its inroads. Such a work as that before us, then, does much good by the ventilation of topics bearing intimately upon health and social comfort. We have always held the opinion that when education in the science of the body advances to a point which seems within easy distance of the culture of our day, the cause of temperance and of reasonable living will not require any external or adventitious aid to made it acceptable to any thinking person.

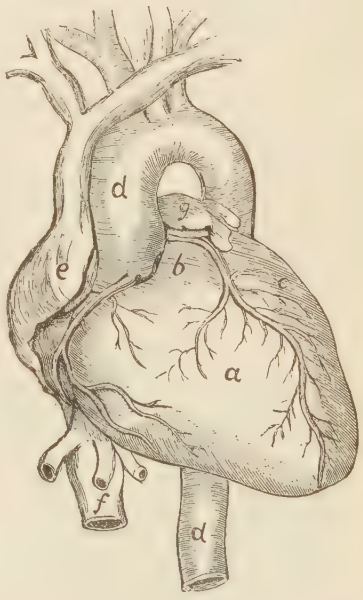


Fig. 1.—View of the Heart and Great Vessels.

Dr. Mann has divided the substance of his book into some fourteen lectures, each of which is written in a plain and attractive style. He begins—wisely, we think—by showing the immense and absolute importance of water in the maintenance of the body. The first lecture is devoted to the description of the nutrition of plants, and to showing how water finds its way into the plant organism. The curious *stomata* of the leaf are well described, as also are the functions of leaves in transpiration—that is, the emission of watery vapour; but Dr. Mann is behind the age somewhat, in speaking of the ends of the roots as

spongioles. As a matter of fact, water is taken up by the delicate *root-hairs* of plants, and not by the tips of the rootlets. The amount of water given off from plants under the influence of the sunlight is very large. A large sunflower gives off a pint and a-half of water in twenty-four hours, while in the same time an acre of grass emits 6,400 quarts. In chapter second, Dr. Mann shows how plants are the food-makers; how from carbonic acid gas, water, and ammonia, the green living plant builds up its frame and forms the starches and other matters which are utilised by animals for food.

These preliminary discourses lead to the consideration of "food-substances and digestion." A clear account is given of the manner in which digestion is carried out, from the

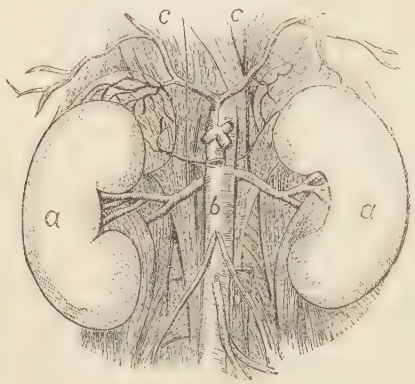


Fig. 2.—The Kidneys in their Natural Position.

processes in the mouth, onwards to the "absorption" by the *villi* of the digested products, and to their incorporation in the blood circulation itself.

The "composition of the blood" affords Dr. Mann an opportunity for a series of interesting remarks on the heart and its work. The heart (Fig. 1) is shown in the accompanying illustration. We see its two sides divided each into an *auricle*, or smaller chamber (*e*), and a *ventricle* (*a*), or larger chamber—those figured being the chambers of the right side; while *c* is the *left ventricle*, and *g* the *left auricle*. From the left side of the heart the pure blood is pumped out through the body by means of the main pipe or artery—the *aorta* (*d d*) which curves in the chest after leaving the heart to form its "arch," and finally runs down

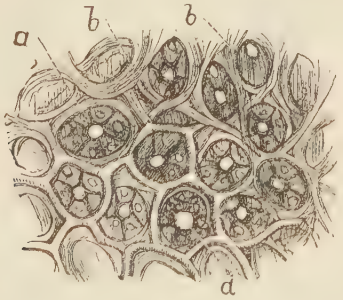


Fig. 3.—Microscopic Structure of the Kidney.

by the spine as the main blood-channel of the body. Readers who wish for a clear description of the circulation will find such in Dr. Mann's pages, and we are especially pleased with his remarks on the nature of the blood itself. The cut of the red corpuscles (page 75), however, hardly does justice to the latter bodies.

Passing over the lectures on the liver and other secreting organs (such as the pancreas, or "sweet-bread," the salivary glands, &c.) on the structure of the lungs, and on the functions of muscle, brain, and nerve, we arrive at the important topic of the kidneys, skin, and their work. The kidneys, Dr. Mann shows, lie in the lumbar region, or that of the loins, each (Fig. 2 *a a*) receiving pure blood from the aorta (*b*) through the *renal artery*, or kidney branch, which may be seen in the illustration entering the organ. A microscopic section of the outer part of the kidney (Fig. 3) shows us the parts (*b b*) which separate out the waste products from the blood, and the ducts or tubes (*a a*) which carry these products to the outlet of the organ. In a longitudinal section of the kidney (Fig. 4), we see the outer part (*a a*) with the *papillæ* or projections (*b b*) opening into the *pelvis* or funnel (*e*) of the organ. The large artery which enters the kidney is shown at *g*, and the vein which leaves the organ at *h*. Into the kidney there pours a continuous stream of arterial blood, as Dr. Mann shows, and out of the kidney streams a continuous current of blood which has had its impurities removed in its passage through the organ. For the kidney is a kind of tubular filter,

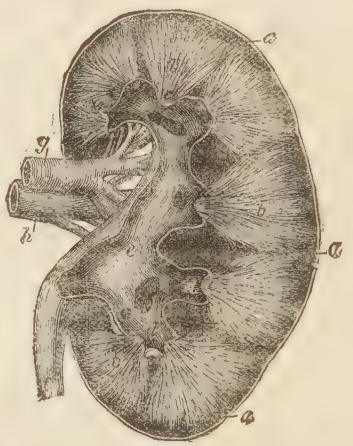


Fig. 4.—Section of a Kidney.

Fig. 5.—Structure of the Skin.

which purifies the blood from certain waste products, amongst which water and *urea* stand conspicuous.

In clearest relation to the kidneys stands the skin as an organ of excretion—that is, an organ whose duty, in part at least, is that of getting rid of the waste matters which every act of life entails. A section through the thickness of the skin (Fig. 5) shows us the outer or "scarf skin" (*c*), with the sweat-tube opening in a *pore* (*d*), while below the true skin is seen the sweat-gland (*a*), which is merely a coiled-up tube. If the sweat-tubes of the body were uncoiled, they would make up, as Dr. Mann tells us, a length of twenty-eight miles. Hour by hour the skin acts in its work of excreting waste, so that about two pounds' weight of liquid are poured out in twenty-four hours from the skin of the adult under ordinary circumstances. It is needless to add that this quantity becomes immensely increased during and after great exertion.

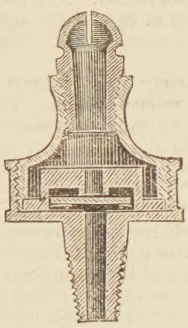
The remaining parts of Dr. Mann's instructive volume are devoted to the discussion of such topics as "nutrition, work, and heat;" while the chapters devoted to the nature of fermented drink, alcohol, intemperance, tea, coffee, and cocoa are full of matter which it concerns every reasonable and thinking person to know. Dr. Mann's position is highly scientific when discussing the action of alcohol, and it is a safe position, because it is founded on scientific data. We are glad to see that our author accords a high value to

cocoa as a food, and places tea and coffee in a subordinate position as articles of diet.

By all who care to know something of the nutrition of their frames, how that work is carried on, and how it may be safely pursued, Dr. Mann's lectures will be found highly useful and instructive. We have seldom met with so much information of sound and genuine kind, compressed into so small a space; and we say this, while at the same time declaring that wherever necessary, the explanations given in this volume are of full and exhaustive nature. As a text-book for schools, this work should rise into high favour with teachers.

Sanitary Appliances, Etc.

Snelgrove's Patent Automatic Governor Gas-Burners.—We have pleasure in calling attention to these burners, one of which we have had submitted to a series of tests with the view of deciding its claims for notice. The desirability of employing such an apparatus is seen when it is found that "the pressure of the gas in the supply-pipes ranges, according to the locality and other circumstances, from about 10-10ths to 35-10ths, and is, moreover, continually varying. Now, the maximum pressure required at the point of ignition of the burner is only from 3-10ths to 5-10ths, and every 1-10th of pressure beyond this passes more and more gas through the burner than it can properly consume; the consumption, or rather waste, of gas increases rapidly with the pressure, while the lighting power of the burner per foot of gas greatly decreases. It is thus obvious that unless the burner is 'governed,' the heavy and varying pressure will (as explained above) force through it a much greater quantity of gas than it is constructed to burn; the result being a bluish and very poorly illuminating flame, a vitiated atmosphere caused by the escape of the only partially-consumed gas, and last, but by no means least, a heavy, and to the consumer very unsatisfactory, gas bill."



By the use of the Snelgrove burner we have found the gas pressure to be efficiently controlled, and the flow duly regulated, while the maximum of light is also obtained. We can readily endorse the opinion that the use of these burners will certainly tend to a reduction in our gas bills, while air contamination is avoided. As shown in the appended illustration, Snelgrove's "Patent Governor Gas-Burner" consists of a non-corrosive tip made of steatite, and of the burner proper, which is acted upon by and in turn controls the gas-supply. These burners are made in various sizes, known as 3, 4, 5, and 6; the sizes corresponding to the number of feet of gas consumed per hour. The prices of the burners are extremely moderate, and vary from 15s. per dozen, or 1s. 3d. each, for brass brass burners, to 1s. 6d. each for nickel-plated ones. They are to be had in any quantity of Messrs. Snelgrove & Co., 39, Hindon-street, Victoria Station, London, S.W.

The meanest practical joker lives in Philadelphia. Being on a visit to a neighbouring city, he spotted his face all over with red paint, and suddenly made his appearance at an annual meeting of the Anti-Vaccination Society. The members nearly broke their necks getting out of the windows.—*Med. News*, April 13.

Our Letter: Box

"Conference [maketh] a ready man."—*Bacon.*

NOTICES TO CORRESPONDENTS.

All Communications for the Editorial Department (including specmens of Sanitary Appliances, &c.), to be addressed to "The Editor of Health," 74-76, *Great Queen-street, London, W.C. Those intended for the Publishing Office to be sent to* "The Publisher," *at the same address.*

Contributors are requested to send stamps for the return of the MSS. *in event of non-acceptance. Every care will be taken to ensure the safety of* MSS., *but the* Editor *and* Publishers *cannot hold themselves responsible for accidental loss.*

Correspondents are requested to write on one side of the paper only. The Editor *disclaims responsibility for the opinions expressed by Correspondents.*

LETTERS TO THE EDITOR.

DANGER IN THE DAIRY.

Sir,—Now that attention is being so much directed to the spread of scarlet fever through the milk supply, perhaps the following may not be uninteresting as an illustration of the perils to which the public are exposed.

A lady with two children recently visited a farm, and on her arrival the dairy-maid was told off to wait upon them. She noticed at the time that the girl's face looked peculiar, and the skin peeling, but not having any experience of fevers, accepted the girl's statement that she was merely suffering from the effects of a chill; and although the girl drew her attention to the state of her hands, which were also peeling, no importance was attached to it until in a day or two both these children were attacked with scarlet fever, and then it dawned upon them that the dairymaid must have been suffering from the same disease (although, of course, in a mild form, as she had not been prevented from attending to her duties the whole time); and when a medical man was called in, this proved to be correct.

Now this girl, whilst her skin was in the peeling stage, had been attending to the work of the dairy generally, *had made the butter, and had actually made the bread* for the household, and one can scarcely imagine the extent of the mischief which she might have caused.

Might not many of the outbreaks of fever arise from similar causes, and from which there is no safeguard, seeing that the disease does not come under the notice of any medical man, and, consequently, no steps are taken to isolate it?—I am, sir, yours, &c., Sanitas.

Oct. 13, 1883.

[A recent case at Dundee, where a dairyman's son affected with scarlet-fever, and nursed in the dairy, caused seventeen cases of that disease amongst the customers (four being fatal cases), illustrates, as does the letter of "Sanitas," the fearful results which ignorance and carelessness combined entail upon the public in the matter of health. How much longer are dairies to be left without efficient inspection?—Ed. "H."]

NECESSARY IMPROVEMENTS IN FISHING DISTRICTS.

Sir,—It appears to me that our sanitarians are somewhat slow in their movements on urgent occasions, and that a great deal of their time is centred on City improvements, on ventilation and sewers, whereas it would not be by any means a futile work if they passed a little coastwards and examined the condition of sanitation on, say, the Fifeshire coast—Anstruther, Pittenweem, and St. Monan's. The latter town requires special attention. Its sewers are very imperfect; water is thrown out on the road, and left to run into the harbour heavily charged with animal matter, ashes, and other filthy items. These are promiscuously strewn about, and left for days together, until, once per week, it is thought necessary to remove them. The authorities in all such districts should immediately organise "dust-carts" and a sanitary service to visit the villages daily, and an important step would thus be taken for the physical well-being of the fishing villages of the Fifeshire and other coasts.—I am, yours, &c., G. Hutchison.

Edinburgh, Oct. 22, 1883.

QUERIES AND ANSWERS.

[We would direct the attention of our correspondents to the fact that, owing to the necessity for sending Health to press early in the week, answers to queries cannot, as a rule, appear in the succeeding number of the journal. Every effort is made to secure punctuality in the replies, but we must ask the occasional indulgence of our readers, owing to the large amount of correspondence, which requires assortment and reply.

We must also request correspondents who write enclosing stamps for copies of Health, to address their inquiries to the Publisher, *and not to the Editor.*]

GENERAL.

King, G.—The remark is perfectly correct.

Annie South.—No; there are seven bones in the ankle. See our papers on "The Body and its Structure."

A. Z.—Communicate with Mr. Browning direct.

Cecil Arthur.—The blood-corpuscles are of two kinds, white and red. The latter are believed to be derived from the white.

G. Anderson.—Dr. Wilson does not lecture this session in your town.

Anticipation.—Price varies. Write to Messrs. Beeman & Roberts direct.

Olga.—We have never heard of the practice. It would not, in our opinion, be a safe one.

S. O. N.—By breathing into lime-water, you form carbonate of lime (*i.e.*, chalk). The carbonic acid from your lungs unites with the lime and forms the carbonate.

Alexis.—Not just yet. Have patience.

Louis A. Mumford.—You allude to the recent contest in which a temperance lecturer tried a reaping contest with a farmer. You say the teetotaller was not a farmer, and was not accustomed to manual labour. Why, then, in the name of common sense did he attempt such a trial? If the advocates of total abstinence make such exhibitions of themselves, little wonder, say we, that they incur the derision of those who are ill-disposed to their movements. You entirely mistake the spirit of the paragraph in Health, when you say it was meant to prove "the superiority of alcohol"—whatever you may imply by that term. If you will re-peruse the article you will find the writer is simply stating the scientific position of tea and alcohol, under various circumstances of life. That this implies no discouragement of total abstinence must be clear to any impartial mind which peruses the statement. But if abstainers will be so foolish as to imagine that because they take no alcohol they are able to vanquish every one who does, they must take the consequences of defeat.

S. W. Spink.—See above reply. Nobody doubts that alcohol is not essential for health, and nobody has certainly found anything in our columns which asserts the contrary. If you will read the review of "Study and Stimulants" (Health, No. 21) you will find therein our views on the whole question of alcohol. As for your Bible quotations, you should know by this time that both abstainers and non-abstainers can find abundance of textual support for their practices. The question is not one to be settled by texts. It is one for the wise, scientific decision and individual experience of each thinking person.

A. C. Pedley.—On the contrary, we think the exhibition to which you allude is a proof of what we urge, namely, that individual experiences go for nothing. We do not say an abstainer may not work better than a non-abstainer; but when the former thinks his abstinence is to outweigh everything else, it is time to protest. See also replies above.

J. Johnston.—Thanks for your letter. We believe thoroughly in the system; it is an excellent and reliable one, and our opinion has been formed from personal experience of it. We intend to discuss "memory" on some future occasion.

R. Thompson.—Many thanks for the cutting, of which we shall make use.

W. Griffiths.—Thanks for your letter. Your views are well expressed, and we agree in the main with them.

SANITARY.

Anxious.—The condition of matters you note is simply deplorable. Your case is one of blood-poisoning from a mass of filth. Communicate at once with the Medical Officer of Health.

Abel Kirkwood.—No; the invention has no sanitary interest; at present, at least.

Outgoing.—You are not responsible. The landlord is the proper party.

Cingleton.—See our description of Banner's system, in Health, No. 28.

Soldier.—Mr. Maignen, of the "Filtre Rapide," Tower-street, London, will be glad to show you suitable filters.

MEDICAL.

T. J. F.—We do not think much of the circular, because there is not the name of a single medical man or of any responsible person attached to it. We should not advise you to place yourself under the care of any such institution without a guarantee of the qualifications of the proprietors.

J. P. A.—The child probably suffers from a form of bronchitis. We should recommend warm baths and the administration of a little ipecacuanha wine when he has difficulty in bringing up phlegm. In the other case, take the child to an eye hospital and have the eyes treated at once.

T. W. H.—Take a teaspoonful of Fellows' "Syrup of the Hypophosphites" in a wineglassful of water thrice daily before meals.

Z. Y.—See advice to "Fylde," fully given in Health, No. 24.

W. W. B.—Look to the state of the bowels. Such results, as often as not, arise from some irritation (such as worms) which is transferred, and causes the disagreeable symptoms to which you allude. Try also the following:—Bitartrate of potass, 3 drachms; infusion of buchu, 6 ounces. A tablespoonful thrice daily. Attend to the general health.

G. H.—Difficult to say anything about your case from your description. Have you ever suffered from any serious ailment? The symptoms you allude to may arise from indigestion. Rest after meals, and write more fully.

Ein Narr.—Try to reduce your tobacco gradually. There should be no difficulty with a strong will to do this. The pamphlet enclosed is a piece of American quackery.

T. L. L.—No; don't be persuaded into buying any such belt. It is electrically a sham, as Mr. Carpenter's articles have shown. Take the tonic recommended to "T. W. H." above. You suffer from no disease. Cold sponging might aid you also. The "Dr." you name is a quack. We know his pamphlets well. They contain the usual amount of rubbish.

Kezia.—1. Try the Hospital for Throat and Ear Diseases in Gray's-inn-road. By giving a donation to the institution you will recompense it most suitably for the advice you receive. 2. We are great believers in the advantages of cod oil emulsion to which hypophosphites have been added. Any good chemist will keep such a medicine. Give plenty of eggs, milk, light puddings, mutton (for preference), and cocoa instead of tea. Rapid growth will account for the thinness.

Interrogator.—Certainly not. As you describe the symptoms they are indicative of robust health. The person you consulted must have eyes equal to those described by Sam Weller in the witness-box, if he could diagnose your symptoms in the way you mention. He is an unregistered practitioner—or, in plain language, a quack, who makes "herbal medicines" a specialty. Try the tonic recommended to "T. W. H." above.

Sanguine.—Yes; perfectly safe to use for the face. There are various toilet preparations made of Vaseline which might suit you. Try the Vaseline pure; and if not improved, write again.

A. Wretch.—You are morbidly excited and alarmed. Yours is a very common case, but one in which a little attention to your health and habits will effect a complete cure. Sleep on a hard mattress; don't take late suppers, or drink fluids late at night; use cold sponging; take ordinary nourishing, but light foods; give up tea and all stimulants; and, finally, take for a time the tonic recommended to "T. W. H." in present number of Health. Steer clear of quacks, who flourish on cases such as yours. You need have no alarm or fear of your future.

J. R. D.—You do not mention your age; but if, as we suspect, you are up in years, the affection you name is by no means uncommon. We should recommend you to see a consulting physician (such as the Professor of Medicine in your University), and undergo a thorough examination. Cases like yours are often put right by very simple treatment; but you must see a good physician.

Erne.—Read our papers on the "Hair" in the first three monthly parts of Health. If you do not find what is required therein, write again.

Impecunious.—1. Try a lotion of bicarbonate of soda, one drachm; added to one and a-half ounces of glycerine, for the skin irritation; and let us hear the result. 2. No; no danger if natural. Is there any cause? Wear a suspensory bandage. 3. For the elbow pain try bathing with hot salt water.

Non Omnis Moriar.—See advice to "A Wretch" above. Be cheerful, and know you suffer from no disease.

S. O.—1. You might try Pulvermacher's chain belts, which are highly effective (194, Regent-street, London, W.). 2. The use of a mineral water (*e.g.*, "Æsculap," "Victoria Ofner Bitter Water,"

or "Friedrichshall") is preferable, we think. Cold water will do no harm. A fruit dietary should also be tried.

L. W. Pride.—There is no special course of dietary for you but the ordinary light, nutritious feeding recommended to all. Be careful as to smoking, as tobacco acts as a depressor of the heart's action; but an occasional light cigar will do no harm. Perhaps tea and coffee might be discontinued for a time for cocoa. Tea is often responsible for indigestion and like troubles. Why not consult a good physician if your heart-trouble alarms you? You are possibly fearful over what does not exist.

A Martyr to Chilblains.—Try the effect of a lotion composed of equal parts of tincture of cantharides and soap liniment (mark "For External Use—Poison"). Apply this with a little cotton wool to the chilblains, and let it dry on. We intend shortly to give a number of *recipes* for this distressing affection.

W. W.—Glad to be of service to you. Try Morson's "Pepsine" with your food, as directed on the bottle; give up reading at meals; and rest after food. A little "Æsculap" water in the morning may do good. Avoid tea, coffee, and vegetables (except potatoes), and let your diet be very light for a time—milk, eggs, puddings, &c., and give your stomach a little rest by trying Brand's "Beef Essence," or like preparations, instead of the solid meat.

Henry Hemans.—Either place should suit you. The Isle of Wight is more sheltered; but if desirous of avoiding the journey, try Eastbourne or Hastings.

Curious.—Breaking down old adhesion is always a dangerous matter. Bone-setters do this without scruple, and sometimes, no doubt, successfully. But each case is to be judged on its own merits. Personally, we should never allow such a proceeding to be perpetrated on ourselves, except under the best surgical advice.

Ernest.—Try the effect of a little carbolated Vaseline ointment (about 3 per cent. of the acid, to be added by the chemist, to pure Vaseline) to the rash, and let us know in a week the result. If not better, we can recommend something else.

Nemo.—See advice to "A. Wretch" in present number of Health.

Jabez.—1. Try the effect of washing the head with a little bicarbonate of soda dissolved in lukewarm water. Attend carefully to cleanliness, use a moderately hard brush, and rub in night and morning a little Macassar Oil. Your general health is probably the cause of your hair-troubles. 2. Try cod-oil emulsion instead of the pure oil itself. Such fatty articles as mutton chops, &c., also starches and sugars, should be taken as part of your dietary.

K. P.—1. The question is a very wide one, and cannot be answered here. We may refer you to our review of "Study and Stimulants" (Health, No. 21, p. 333), for a discussion on this topic. A series of articles on alcohol by eminent medical men is published by Isbister & Co., Ludgate-hill. They were reprinted from the *Contemporary Review*. You should read this book. 2. Your second chief question is really as wide as your first. We should say see that your food is plain and nourishing, habits regular, and exercise free. 3. There are no reliable means for "forcing" hair on the face beyond attention to the general health. Many persons constitutionally have little hair on the face.

Marta.—Try small quantities of food given frequently, instead of ordinary full meals, and also give the stomach rest for a time by administering the food in a concentrated state. Brand's "Beef Jelly" and similar preparations should be used. Morson's "Pepsine," given along with food, should also do good. 2. Use Pears' Soap, with hot soft water for washing.

W. Richards.—See advice to "Marta" above in respect of the food being taken for a time in concentrated form. Avoid vegetables, and try the "Pepsine" with food as above directed. 2. Try "Æsculap" mineral water as a mild aperient. 3. See advice to "Fylde," Health, No. 24, where appropriate treatment is recommended.

Brighton.—We give the name of the place from which you date your letter, as it is unsigned. If you will send us name and address we will give you the name of a medical consultant in London, who will give your case every attention.

Troubadour.—1. No objection to the dinners. They will be a pleasant change. 2. No; do not use hot salt water for the hair. Use hot rain water and Pears' Soap once or twice a week, and rub in a little of Rowlands' Macassar Oil to the roots night and morning. 3. Mere washes will not clean the teeth. We prefer precipitated or camphorated chalk. 4. There is no need, so far as we see, to put Condy's Fluid in your washing water.

H. A.—1. We do not know of any such soap. Write to Mr. Carpenter at our office and repeat your inquiry. Have you tried "Pears'"? 2. We prefer camphorated chalk as a dentifrice. Used with a moderately hard brush, it has an excellent effect on teeth and gums.

B. R. C. E.—1. You mistake the nature of the secretion you name. 2. No: what you name is perfectly consistent with good health, provided the occurrence is not too frequent. Only quacks will persuade you differently.

Phosphorus.—The symptoms you name might all be explained in a different fashion; hence, where there may be a doubt, we advise a consultation with a good physician. The phosphates are believed to represent brain and nerve waste; but except when in excess, need cause no trouble. It is difficult to say anything about the calculus. From your description we imagine the gland you name may be enlarged, and this would account for what you observe. Why not undergo a thorough examination, and have your doubts set at rest?

R. F.—We think yours is eminently a case in which a total change of diet would effect a cure. Give the vegetarian system a trial. In your city, the head-quarters of the system are to be found. We should say you would decidedly benefit from a diet in which fruits and vegetables form the chief items.

Llewellyn.—From your description it is clear you suffer from digestive troubles. You may dismiss all idea of "cancer"—there is no sign of such an affection. We advise greater care in the choice of food. Alter your meal-hours for a time, and try the effect of Morson's "Pepsine," taken along with the food as directed on the bottle. The advice given to "R. F." above might also be followed by way of experiment.

Blackburn.—Try to do without tea and coffee for a time, and take the tonic recommended to "J. F. J." in No. 27 of Health. Glad to advise further, if necessary.

E. Hayward.—Read our remarks on "Colds" in the "Notes by the Way," Health, No. 27. If you do not find there what you require, write again, stating your wants specifically.

H. J. W.—Sleep on a hard mattress; use cold sponging; take plain, nourishing food; no stimulants; and the tonic recommended to "T. W. H." in present No. of Health. With care, you will effect a cure. Steer clear of quacks.

Wakeeul.—Give up smoking—or at least moderate the habit. Many cases of your description owe their origin to such a practice. Take fifteen grains bromide of potass in a wineglassful of water on going to bed for a few nights until your sleepless habit has been overcome. But beware of getting into the habit of taking any narcotic.

Lux.—The too frequent washing of the head is a bad practice. There is no need, under ordinary circumstances, to wash the head every day. We do not know the "Boron" you speak of; but borax as ordinarily sold has a tendency to lighten the hair and to render it brittle. We should not recommend the continual use of borax in washing water.

J. C. (Glasgow).—Have nothing to do with the "Restorer" you name. Its "proprietor" is a well-known quack, and the apparatus is a fraud and a sham. Your case is a common one, but eminently curable. See advice above to "H. J. W." See to your general health, and you will soon be cured. Only quacks could persuade you that you need be apprehensive about yourself.

S. M.—There is no specific medicine for your complaint. You should see a good surgeon, as a simple operation will be likely to cure you.

Distressed.—A patient such as you describe should, in our opinion, see a physician at once. You need have no hesitation or delicacy in the matter. Medical men are highly sympathetic, and such cases are continually occurring in practice. There is, in our view, the greater need for consulting a doctor, inasmuch as, from what you mention, the condition of the patient demands care and attention.

Co-operation.—You exhibit the too common symptoms of indigestion, and you will require to effect a change in your diet. Give up tea and coffee, and try cocoa instead. Take milk, eggs, puddings, &c. No stimulants. A little Morson's "Pepsine" should be taken with the food. Look to your teeth, and try cold sponging in the morning, if you have sufficient reaction. Moderate exercise is necessary, but your work should not be too heavy.

Elizabeth.—In such a case as yours we should try Brand's "Beef Jelly," Carnrick's "Peptonoids," and other *concentrated* foods for a time. As these foods are easily digested, and contain a full amount of nutriment, the stomach would thus be allowed a rest. Give up tea and coffee for a time, and try milk instead. Food should be very light. By experimenting in this way on your dietary you may be able to improve your state vastly. See also advice to "Co-operation" above.

A Banff Man.—You are evidently of highly nervous temperament, and the symptoms you name are not unusual in such cases. The tonic you mention should certainly be tried. See to your general health. Food to be nourishing, plenty of sleep, and above all, extreme regularity in habits.

W. G. H.—The attacks are possibly due either to some irregularity of diet (you do not mention your habits or food) or to some

less obvious cause. Attend very carefully to the condition of stomach and bowels. From what you say regarding flatulence, we incline to the belief that some error in digestion lies at the root of your affection. See advice to "Co-operation" above. Glad to advise further, if necessary.

J. A. J.—1. See HEALTH, No. 26, page 6, for a remedy for freckles. 2. Use simple Vaseline as an application to the legs and elbows. 3. The remedy can only be applied by a specialist in skin diseases. There are several in London who apply this remedy. We never recommend practitioners by name in HEALTH, but we can send you the address of a specialist privately on receipt of a stamped envelope.

SWEETNESS—1. Under the circumstances there should be no hesitation in following the physician's whole advice. Give his treatment a fair trial, and then judge of the effects. Droitwich can be tried later, if the present treatment is unsuccessful. The dry cupping is likely to do good. Why not act up fully to the physician's instructions? The prescriptions are both valuable ones. 2. Pulvermacher's belt should be tried; so-called "magnetic" belts are shams. 3. The secretion you name is not what you think it to be. No need to notice it.

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